

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

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Maternal Mortality — United States, 1982–1996

Maternal and infant mortality are basic health indicators that reflect a nation's health status. In the United States, infant mortality has declined steadily; however, this is not true for maternal mortality. This report presents data from death certificates compiled by CDC's National Center for Health Statistics, which indicate that in the United States, the annual maternal mortality ratio* remained approximately 7.5 maternal deaths per 100,000 live births during 1982–1996.

Annual maternal mortality ratios were calculated using information contained on death certificates filed in state vital statistics offices and compiled by CDC (1,2). Maternal deaths were defined as those deaths that occurred during a pregnancy or within 42 days of the end of a pregnancy and for which the cause of death was listed as a complication of pregnancy, childbirth, or the puerperium (*International Classification of Diseases, Ninth Revision*, codes 630–676). Maternal mortality ratios were calculated as the number of maternal deaths per 100,000 live births (1,2).

In 1930, the national maternal mortality ratio was 670 maternal deaths per 100,000 live births (3). The ratio declined substantially during the 1940s and 1950s, and continued to decline until 1982. During 1982–1996, the annual maternal mortality ratio fluctuated between approximately 7 and 8 maternal deaths per 100,000 live births (Figure 1). During that time, trends by race were similar to the overall ratio, and no reductions were observed for either black or white women. Maternal mortality ratios remained higher for black women than for white women. Ratios for black women generally fluctuated between 18 and 22 per 100,000 births and for white women between 5 and 6 per 100,000 live births.

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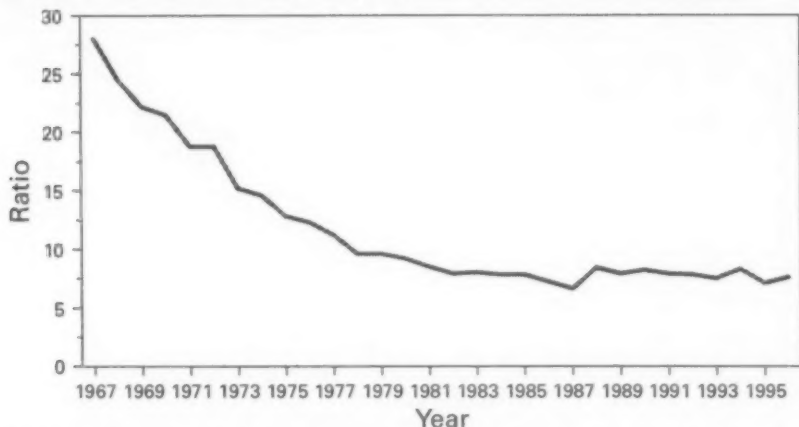
Editorial Note: Since 1982 in the United States, no progress has been made toward achieving the Healthy People 2000 goal of 3.3 maternal deaths per 100,000 live births set in 1987 (objective 14.3) (4). The reason for this lack of improvement in maternal mortality is not clear. However, during this same time period, infant mortality has declined steadily because of advances in the survival of low birthweight and preterm infants and in the prevention of some causes of postneonatal mortality, such as sudden infant death syndrome.

*CDC's National Center for Health Statistics uses the term maternal mortality rate. In this report, the term "ratio" is used instead of rate because the numerator includes some maternal deaths that were not related to live births and thus were not included in the denominator.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Maternal Mortality — Continued

FIGURE 1. Maternal mortality ratio*, by year — United States, 1967–1996



*Number of maternal deaths per 100,000 live births. The term "ratio" is used instead of rate because the numerator includes some maternal deaths that were not related to live births and thus were not included in the denominator.

The United States has not reached an irreducible minimum in maternal mortality; WHO estimates demonstrate that 20 countries have reduced maternal mortality levels to below those of the United States (5). Primary prevention of maternal deaths, such as those associated with ectopic pregnancy and some cases of infection and hemorrhage, is possible. However, some complications that can occur during pregnancy cannot be prevented (e.g., pregnancy-induced hypertension, placenta previa, retained placenta, and thromboembolism). Nevertheless, more than half of all maternal deaths can be prevented through early diagnosis and appropriate medical care of pregnancy complications (6,7). Hemorrhage, pregnancy-induced hypertension, infection, and ectopic pregnancy continue to account for most (59%) maternal deaths.

When compared with white women, black women continue to have four times the risk for dying from complications of pregnancy and childbirth (2), although the risk for developing maternal complications is less than twice that of white women (8). This suggests that access to and use of health-care services for early diagnosis and effective treatment, if complications develop, may be a factor. In 1996, if the maternal mortality ratio for black women were equal to that for white women, the national maternal mortality ratio would have declined by 32% from 7.6 to 5.1 per 100,000 live births.

In this report, maternal mortality ratios are based solely on vital statistics data and are underestimates because of misclassification. The number of deaths attributed to pregnancy and its complications is estimated to be 1.3 to three times that reported in vital statistics records (6). Misclassification of maternal deaths occurs when the cause of death on the death certificate does not reflect the relation between a woman's pregnancy and her death. In addition, the inclusion of deaths causally related to pregnancy that occur between 43 and 365 days postpregnancy can increase the number of maternal deaths identified by 5%–10% (6).

Maternal Mortality — Continued

To identify interventions that may have an impact on reducing maternal mortality, approximately 25 states have reestablished maternal mortality review committees. These committees review various factors that may have contributed to maternal deaths, including the quality of medical care and systemic problems in the health-care delivery system. To assess the problem and develop appropriate interventions to reduce the number of maternal deaths, all states should implement active surveillance of maternal mortality, including maternal mortality review committees.

In 1998, the World Health Organization designated Safe Motherhood as the focus for World Health Day (April 7), indicating the importance of this issue globally. In the United States, several measures that need to be implemented include providing all women with access to family planning services, because unintended pregnancies are associated with higher risks for both mother and infant (9). Women should know how to prevent sexually transmitted diseases (STDs), and women with STDs need effective and early treatment to prevent ectopic pregnancies. All women need access to culturally appropriate and quality prenatal, delivery, and postpartum care. The prevention of complications and the early diagnosis and effective treatment of any complication is critical. Although prenatal-care use in the United States has been increasing, in 1996, approximately 10% of all pregnant women received inadequate or no prenatal care (10).

In the United States, the theme for World Health Day 1998 was "Invest in the Future: Support Safe Motherhood." The proposed Healthy People 2010 goal for maternal mortality remains 3.3 maternal deaths per 100,000 live births. Unless investments are made in improving maternal health for all women, this goal will not be reached.

References

1. National Center for Health Statistics. Vital statistics of the United States. Vol II—mortality. Part A. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, 1967–1992.
2. National Center for Health Statistics. Health, United States, 1998, with socioeconomic status and health chartbook. Hyattsville, Maryland: US Department of Health and Human Services, 1998; DHHS publication no. (PHS)98-1232.
3. Linder FE, Grove RD. Vital statistics ratios in the United States, 1900–1940. Washington, DC: US Department of Commerce, Bureau of the Census, 1943.
4. Public Health Service. Healthy people 2000: national health promotion and disease prevention objectives—full report, with commentary. Washington, DC: US Department of Health and Human Services, Public Health Service, 1991; DHHS publication no. (PHS)91-50212.
5. World Health Organization. WHO revised 1990 estimates of maternal mortality: a new approach by WHO and UNICEF. Geneva, Switzerland: World Health Organization, 1996; report no. WHO/FRH/MSM/96.11.
6. Berg CJ, Atrash HK, Koonin LM, et al. Pregnancy-related mortality in the United States, 1987–1990. *Obstet Gynecol* 1996;88:161–7.
7. Mertz KJ, Parker AL, Halpin GJ. Pregnancy-related mortality in New Jersey, 1975–1989. *Am J Public Health* 1992;82:1085–8.
8. Bennett TA, Kotelchuck M, Cox CE, et al. Pregnancy-associated hospitalizations in the United States in 1991 and 1992: a comprehensive view of maternal morbidity. *Am J Obstet Gynecol* 1998;178:346–54.
9. Brown SS, Eisenberg L, eds. The best intentions: unintended pregnancy and the well-being of children and families. Washington, DC: National Academy Press, 1995.
10. National Center for Health Statistics. Report of final natality statistics, 1996. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, 1998; DHHS publication no. (PHS)98-1120. (Monthly vital statistics report; vol. 46, no. 11, suppl).

Hepatitis A Vaccination of Men Who Have Sex With Men — Atlanta, Georgia, 1996–1997

Outbreaks of hepatitis A among men who have sex with men (MSM) are a recurring problem in many large cities in the industrialized world (1,2). Because MSM are at high risk for acquiring hepatitis A, in 1995 the Advisory Committee on Immunization Practices (ACIP) recommended that MSM be vaccinated against hepatitis A (3). These recommendations have not been implemented widely, even in outbreak settings. This report summarizes the investigation of an ongoing outbreak of hepatitis A among MSM in Atlanta, Georgia, and a public health vaccination campaign in response to the outbreak.

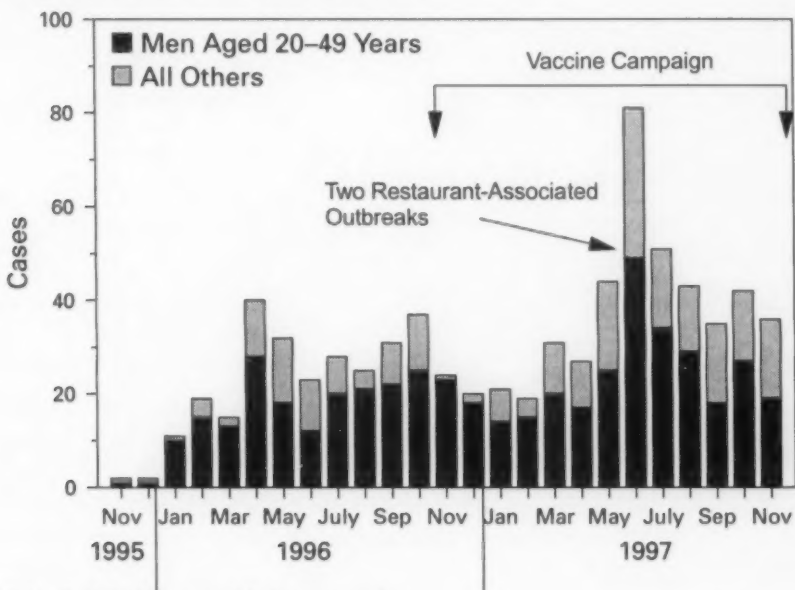
Hepatitis A has been a reportable disease in Georgia since 1978. However, reports are passively collected from laboratories and clinical sites. In March 1996, the state and local health departments noted an increase in hepatitis A cases reported in the Atlanta area. The Georgia Division of Public Health informed local physicians of the outbreak and encouraged them to educate their patients about the risk for hepatitis A transmission and to offer the hepatitis A vaccine to MSM because of anecdotal information linking the outbreak to MSM.

To improve surveillance, a large laboratory, which performs more than 50% of all hepatitis A testing in Georgia, agreed to report all new cases of hepatitis A (based on IgM anti-hepatitis A virus positivity) to the state. From January through September 1996, 222 cases of hepatitis A were reported in Atlanta residents, a 730% increase compared with the annual average of 27 cases during 1993–1995. Evidence that the outbreak was confined primarily to the MSM population of Atlanta included that 1) the proportion of cases that occurred in men aged 20–49 years increased from 41% of cases during 1993–1995 to 74% of cases during 1996 ($p < 0.01$); 2) approximately 75% of male patients self-identified as MSM; and 3) a large proportion of the cases were being diagnosed at medical practices predominantly serving MSM.

In September 1996, state and county health officials, in collaboration with community leaders, planned a hepatitis A vaccination campaign focused specifically on MSM residing in Atlanta. Because one dose of hepatitis A vaccine provides 94% of recipients protection for at least 1 year (4), the first of the two-shot series was provided free by the health department. Vaccination sites included public health clinics, community physicians serving predominantly MSM, bars and sports events, and a community health van stationed on Saturdays at a shopping area popular with the MSM community. The vaccine campaign and an associated education campaign were promoted through targeted physicians, articles and advertisements in local newspapers that are aimed at homosexuals, community organizations, and pamphlets and fliers distributed to local businesses serving homosexuals. From November 1996 through November 1997, approximately 3000 MSM received one dose of hepatitis A vaccine directly through the campaign, representing approximately 10% of the at-risk population in Atlanta.

From January 1996 through November 1997, 735 cases of hepatitis A were identified in the four largest counties (i.e., Cobb, DeKalb, Fulton, and Gwinnett counties) in the metropolitan Atlanta area; 492 occurred in men aged 20–49 years (Figure 1). The number of cases of acute hepatitis A in men aged 20–49 years identified each month did not change substantially after the outbreak began. During December 1996–April

Hepatitis A Vaccination — Continued

FIGURE 1. Number of cases of hepatitis A, by age group — metropolitan Atlanta, Georgia,* November 1995–November 1997

*Cobb, DeKalb, Fulton, and Gwinnett counties.

1997 (the 5-month period following initiation of the vaccine campaign), reported cases of hepatitis A in adult men decreased 16% compared with June 1996–October 1996 (the 5-month period preceding the campaign). Two hepatitis A outbreaks in May 1997 associated with restaurants serving the general population accounted for the increase in cases.

The demographic characteristics of persons reported with hepatitis A suggest that the outbreak continued in the MSM population of Atlanta through November 1997. From April through November 1997, most (61%) reported cases in metropolitan Atlanta occurred in men aged 20–49 years, compared with 26% of cases in Georgia ($p < 0.01$). The decline in cases from 74% to 61% can be explained by two restaurant outbreaks, in which adult women were as likely to be affected as men.

To better understand the response of the community to this outbreak and vaccination campaign, an anonymous survey of MSM was conducted at various community events and sites during June–August 1997. Sites were selected based on an expected participation rate of at least 50%. A total of 255 men were approached and asked to participate; 210 responded to the survey.

Of the 210 MSM surveyed, 138 (66%) were aware of the recent hepatitis A outbreak in Atlanta; most (73 [53%] of 138) learned of the outbreak from one of the articles or advertisements in an Atlanta newspaper aimed at homosexuals. Of 178 men who had not been previously vaccinated or had no history of hepatitis A (i.e., nonimmune),

Hepatitis A Vaccination — Continued

34 (19%) received the hepatitis A vaccine during the campaign. Most (23 [68%] of 34) decided to receive the vaccine because of fear of the disease and/or because they felt at risk for acquiring the virus. The most common reasons for not receiving the vaccine included 1) never got around to it (26%), 2) did not believe they were at risk (26%), and 3) never heard there was a hepatitis A problem (23%). Of the 144 nonimmune men who did not receive the vaccine, 81 (56%) reported high-risk sexual behaviors, and 77 (54%) reported seeing a nonemergency department physician during the previous year.

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Editorial Note: The findings in this report underscore the difficulties of vaccinating adults in high-risk groups for vaccine-preventable diseases. Such persons may not recognize their risk for disease and may miss opportunities to be vaccinated. In this program, there was a high awareness of the outbreak and vaccine campaign; however, coverage rates were low, indicating that community awareness is not the only obstacle to improving vaccine coverage among adults. The estimated 10%–20% coverage of the target population in the vaccination campaign in Atlanta is well below that seen in community-wide hepatitis A vaccine programs targeted to children and adolescents in other areas (5,6).

Vaccination programs targeted to persons in age groups other than infants historically have been difficult to implement because many adolescents and adults do not visit health-care providers for preventive health care. Vaccination programs targeting persons with risk behaviors present difficult challenges because persons may not self-identify as having high-risk behavior or they may not perceive themselves to be at high risk. In addition, health-care providers often do not ask about risk behaviors during health-care visits, resulting in missed opportunities to vaccinate persons in high-risk groups.

Hepatitis A vaccine became commercially available in 1995. The occurrence of outbreaks among MSM and the high prevalence and incidence of hepatitis A among MSM compared with the general population resulted in the ACIP recommending routine hepatitis A vaccination of MSM.

In the vaccine campaign in Atlanta, community-based organizations and local newspapers were effective in raising awareness about the outbreak and the availability of vaccine. In addition to educational efforts, hepatitis A vaccine should be offered at multiple sites that provide health care to MSM, including primary-care clinics, specialty clinics, sexually transmitted diseases clinics, and human immunodeficiency virus testing and counseling sites. In the Atlanta outbreak, most vaccinations were administered through a mobile health van or at bars, suggesting that innovative approaches to reach high-risk adult populations can be effective. Efforts to vaccinate at-risk populations should be maintained at all times to prevent recurring outbreaks among MSM and to protect persons at risk.

*Hepatitis A Vaccination — Continued**References*

1. CDC. Hepatitis A among homosexual men—United States, Canada, and Australia. *MMWR* 1992; 41:155,161–4.
2. Communicable Disease Network—Australia. Communicable disease surveillance. *CDI* 1996; 20:409.
3. CDC. Prevention of hepatitis through active or passive immunization. *MMWR* 1996;45:(no. RR-15).
4. Clemens R, Safary A, Hepburn A. Clinical experience with an inactivated hepatitis A vaccine. *J Infect Dis* 1995;171:44–9.
5. McMahon BJ, Beller M, Williams J, Scholoss M, Tanttala H, Bulkow L. A program to control an outbreak of hepatitis A in Alaska by using an inactivated hepatitis A vaccine. *Arch Pediatr Adolesc Med* 1996;150:733–9.
6. Craig AS, Moore W, Schnaffner W, et al. Use of hepatitis A vaccine to control a community wide outbreak [Abstract 279]. *Clin Infect Dis* 1996;23:911.

Effectiveness of a Seventh Grade School Entry Vaccination Requirement — Statewide and Orange County, Florida, 1997–1998

Vaccine-preventable diseases continue to occur among adolescents (i.e., persons aged 11–21 years) (1). In 1996, the Advisory Committee on Immunization Practices (ACIP), the American Academy of Pediatrics, the American Academy of Family Physicians, and the American Medical Association published joint recommendations emphasizing appropriate vaccination of adolescents aged 11–12 years who have not been vaccinated with hepatitis B vaccine, a second dose of measles, mumps, and rubella vaccine (MMR), varicella vaccine (if indicated), a booster dose of tetanus and diphtheria toxoids (Td), and other vaccines that may be indicated for certain adolescents (2). School entry requirements are an effective mechanism for ensuring high vaccination coverage among children. At the start of the 1997–98 school year, an amendment to the Florida Administrative Code (64D–3.011, F.A.C.) was instituted that requires all persons entering seventh grade to be vaccinated with three doses of hepatitis B vaccine, a second dose of MMR, and a Td booster, or to be on schedule for vaccination (i.e., having received at least one dose of hepatitis B vaccine, one dose of MMR, and a Td booster). To determine vaccination coverage among students entering seventh grade in Florida and in Orange County in 1997, CDC, in collaboration with the Florida Department of Health, analyzed state vaccination coverage data. This report summarizes the results of the analysis and indicates that a vaccination requirement for middle school entry can be effective in ensuring vaccination of adolescents.

Florida

At the start of the 1997–98 school year, 196,074 students entered the seventh grade in 1286 public and private schools in Florida. By November 30, 1997, 121,219 (61.8%) of these students were fully vaccinated with three doses of hepatitis B vaccine, a second dose of MMR, and a Td booster. An additional 72,275 (36.9%) students lacked one or more required vaccinations but were on schedule and therefore in compliance with the requirement, and 763 (0.4%) were exempted for medical or religious reasons. The percentage of seventh-grade students fully vaccinated varied among the 67 Florida counties (Figure 1), ranging from 36.0% in Charlotte County to 97.2% in Franklin County. Coverage varied in the six counties with $\geq 10,000$ seventh graders: Broward

School Entry Vaccination Requirement — Continued

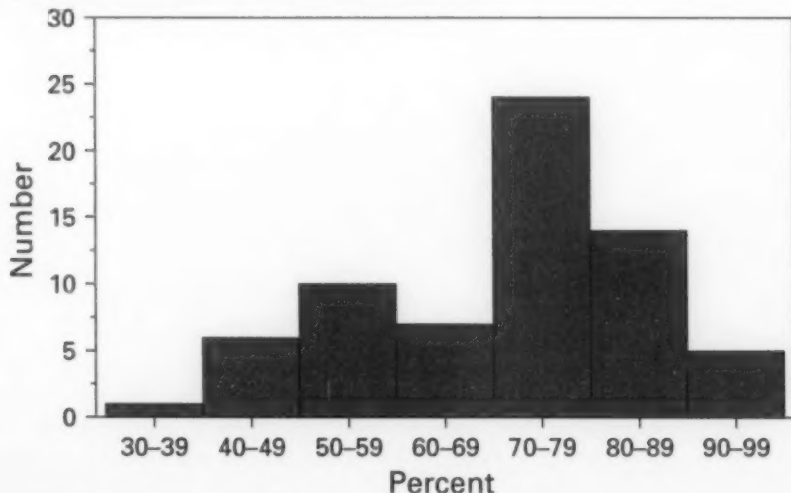
(74.1%), Dade (43.1%), Duval (42.8%), Hillsborough (55.5%), Orange (55.1%), and Palm Beach (77.9%) ($p \leq 0.01$). Statewide coverage among the 177,903 Florida seventh graders enrolled in 617 public schools was substantially lower (59.6%) than that among the 18,171 enrolled in 669 private schools (83.8%) ($p \leq 0.01$).

From 1995 through 1997, the number of vaccinations administered to children aged 10–14 years by Florida public health facilities (i.e., school-based, county, or city clinics) increased substantially (Figure 2). In Florida, vaccines mandated by law must be made available to children free of charge by the Florida Department of Health regardless of a child's insurance status.

Orange County, Florida

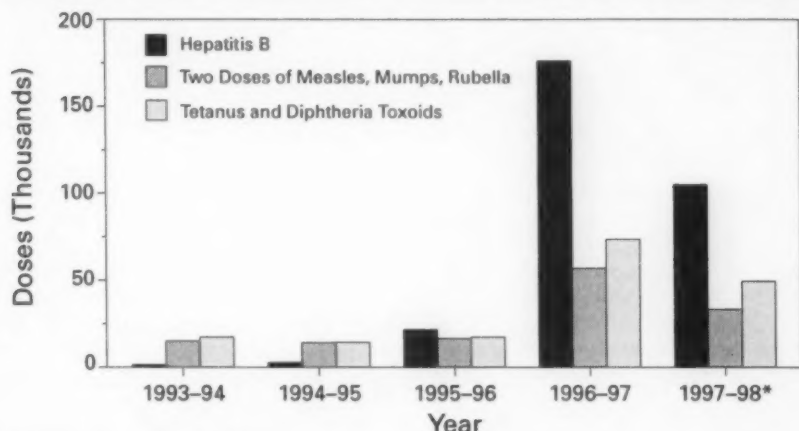
To ensure vaccination of seventh graders, Orange County Health Department (OCHD) officials teamed with a community coalition consisting of private and public health-care providers, local businesses, nongovernment organizations, and local colleges. The Orange County strategy included the vaccination of adolescents by private providers, public health department clinics, and school-based vaccination programs. At the start of the 1997–98 school year, 11,122 students entered seventh grade in Orange County. Of these students, 10,166 (91.4%) were enrolled in 33 public schools and 956 (8.6%) were enrolled in 24 private schools. In anticipation of the law, during the 1996–97 school year, OCHD sent pamphlets home with all sixth graders explaining the new requirement. In January 1997, the "Cool School Shots Campaign" was initiated that included local media announcements and a public school-based vaccination program targeting sixth graders.

FIGURE 1. Percentage of seventh-grade students who were fully vaccinated, by number of counties* — Florida, November 1997



*n=67.

School Entry Vaccination Requirement — Continued

FIGURE 2. Number of doses of selected vaccines administered by the Florida Department of Health to persons aged 10–14 years, by fiscal year — Florida, 1993–1998

*First quarter of 1997–98 fiscal year.

Three sessions were scheduled to allow students to receive all required vaccinations, including the three doses of hepatitis B vaccine, at school. Overall, 3739 (34%) students received at least one vaccination during the first of three school-based vaccination events conducted during January 1997 (Table 1). Hepatitis B vaccine accounted for 35.7% of the vaccine doses administered during the first session, 92.7% during the second, and 100% during the third. However, 44% fewer third doses of hepatitis B vaccine (1886) than first doses (3329) were administered. Based on anecdotal information from OCHD officials, lack of parental knowledge regarding school entry vaccination requirements was a key barrier to achieving higher participation and completion by students in the program.

During July–September 1997, immediately before implementation of the seventh grade entry requirement and after the school-based vaccination campaign, the OCHD administered 9087 total vaccine doses, including 5015 doses of hepatitis B vaccine, 1700 doses of MMR, and 2372 doses of Td booster to children aged 10–14 years, representing a 380% increase from the 2379 total doses administered during the same period in 1996. By November 30, 1997, 6123 (55.1%) Orange County seventh graders entering school were fully vaccinated. A total of 4988 (44.9%) students lacked one or more required vaccinations but were considered in compliance with the requirement, eight were exempted for either medical or religious reasons, and three lacked documentation. Seventh graders enrolled in private schools were more likely to be fully vaccinated than seventh graders enrolled in public schools (86.4% vs. 52.1%) ($p < 0.01$). Reported by: HT Janowski, MPH, Florida Bur of Immunization, Florida Dept of Health; D Deloach, CJ Keough, Orange County Health Dept; SF Morrison, PhD, Orange County Public Schools, Orlando, Florida. N Smith, MPH, Council of State and Territorial Epidemiologists, Atlanta, Georgia. Health Svcs Research and Evaluation Br, Immunization Svcs Div, National Immunization Program; and an EIS Officer, CDC.

School Entry Vaccination Requirement — Continued

TABLE 1. Number of vaccine doses administered to persons aged 10–14 years during three school-based vaccination events, by vaccine — Orange County, Florida, 1997

Vaccine	Vaccination session		
	January	February	May
Hepatitis B—dose 1	3329	92	24
Hepatitis B—dose 2	70	2538	348
Hepatitis B—dose 3	24	19	1886
MMR* dose 2	2959	106	N/A [†]
Td booster [‡]	3191	103	N/A
Total participants	3739	2665	2258
Total vaccine doses	9573	2858	2258

* Measles, mumps, and rubella vaccine.

[†] Not available.[‡] Tetanus and diphtheria toxoids booster.

Editorial Note: The findings in this report indicate that a middle school vaccination entry requirement in Florida was effective in ensuring that most seventh-grade students were appropriately vaccinated after the law was enacted. Other successful programs to vaccinate adolescents in schools and in provider settings have been previously described (3,4).

Many older children and adolescents may require additional doses of vaccine when new vaccines are introduced or recommendations for existing vaccines are revised. For example, hepatitis B vaccine has been recommended for all infants since 1991. However, in 1997, ACIP revised its recommendations to include all persons aged 0–18 years; vaccine is available through the Vaccines for Children (VFC) program for persons who are eligible for VFC. The lifetime risk for hepatitis B virus (HBV) infection is 4.2% for persons aged ≥6 years, and approximately 70% of HBV infections occur in late adolescence and early adulthood (5). In the United States, failure to vaccinate a single cohort of adolescents will result in an estimated 160,000 HBV infections, 10,000 chronic HBV infections, and 1400 deaths (6). Without vaccination, an estimated 8157 cases of hepatitis B infection (4.2% of population lifetime risk for infection for persons aged ≥6 years), 489 chronic HBV infections (6% of HBV infections) and 69 hepatitis-related deaths (14% of chronic HBV infections) will occur among this single cohort of 196,074 Florida adolescents during their lifetimes. Immediate action is needed to ensure that adolescents receive hepatitis B vaccine along with other recommended vaccinations.

The findings in this report are subject to at least three limitations. First, because data collected for Florida consisted of regional reports sent from schools to the department of health during November 1997, no mechanism was in place to determine the total number of fully vaccinated seventh-grade students at the end of the school year. Second, the number of vaccinations and other recommended preventive services received by these adolescents from their primary-care provider or managed-care organization is unknown. Finally, data were not available to determine the rate of vaccine coverage in previous years; however, the increase in vaccine administered by public clinics suggest that vaccination rates in previous years among persons aged 10–14 years was lower.

School Entry Vaccination Requirement — Continued

In 1997, four states (Colorado, Florida, Oklahoma and Wisconsin) implemented middle school vaccination entry requirements for hepatitis B vaccine. The number of states with vaccination entry requirements for middle school students will increase to 14 by 2006, when an estimated 75% of adolescents aged 11–12 years in the United States will be subject to hepatitis B vaccination requirements through both elementary and middle school requirements (6). Because of current successes in the infant vaccination program, most adolescents will be appropriately vaccinated against hepatitis B by the year 2010.

References

1. Hussain Y, Averhoff FM, Smith N, Brink E. Adolescent immunization: rationale, recommendations, and implementation strategies. *Pediatr Ann* 1998;27:436–44.
2. CDC. Immunization of adolescents: recommendations of the Advisory Committee on Immunization Practices, the American Academy of Pediatrics, the American Academy of Family Physicians, and the American Medical Association. *MMWR*;1996;45:(no. RR-13).
3. Unti L, Woodruff. A review of adolescent school-based hepatitis B vaccination projects. Washington, DC: US Department of Health and Human Services, Public Health Service, CDC, October 1996.
4. Kollar LM, Rosenthal SL, Biro FM. Hepatitis B vaccine series compliance in adolescents. *Pediatr Infect Dis J* 1994;13:1006–8.
5. Margolis HS, Coleman PJ, Brown RE, Mast EE, Sheingold SH, Arevalo JA. Prevention of hepatitis B virus transmission by immunization: an economic analysis of current recommendations. *JAMA* 1995;274:1201–8.
6. Smith NM, Averhoff FM. The effects of expanding hepatitis B vaccination recommendations for all children and adolescents. New Orleans, Louisiana: Pediatric Academic Society Annual Meeting, May 1–5, 1998.

Notice to Readers

Recommendations of the Advisory Committee on Immunization Practices, the American Academy of Pediatrics, and the American Academy of Family Physicians: Use of Reminder and Recall by Vaccination Providers to Increase Vaccination Rates

This statement by the Advisory Committee on Immunization Practices (ACIP), the American Academy of Pediatrics (AAP), and the American Academy of Family Physicians (AAFP) presents and recommends a programmatic strategy—the use of a reminder and/or recall (R/R) system by vaccination providers—to increase vaccination rates. In 1992, a national survey indicated that 8% of pediatricians and 5% of family physicians had implemented a manual vaccination R/R system and 6% and 5%, respectively, used a computer-based system for vaccination R/R messages (1). In 1993, the National Vaccine Advisory Committee issued the “Standards for Pediatric Immunization Practices,” which recommend that all public and private health-care providers use a vaccination R/R system (2). These standards were endorsed by ACIP, AAP, and AAFP. By 1995 a survey indicated that R/R systems were used by 35% of pediatricians and 23% of family physicians (R. Zimmerman, University of Pittsburgh School of Medicine, personal communication, 1995).

Notices to Readers — Continued

The reminder component consists of mail and/or telephone messages to remind parents or guardians of vaccination due dates for their children. Reminder messages can improve parents' awareness that vaccinations are due and the importance of keeping appointments, therefore increasing the up-to-date vaccination status of children. The recall component consists of mail and/or telephone messages to parents or guardians of children who are past due for one or more vaccinations. Recall messages can decrease vaccination drop-out rates and reduce the time children remain at risk for vaccine-preventable diseases. R/R systems can be operated manually (e.g., by monthly tickler file) or can be automated (e.g., by computer-generated mailings or telephone calls). Messages from automated systems can be modified to address special needs (e.g., language).

The implementation of vaccination R/R systems has potential benefits beyond improved vaccination coverage rates. Patients of all ages who are due or overdue for recommended vaccinations also may have fallen behind in health supervision visits and may experience barriers to health care in general. Vaccination R/R systems may help identify patients who are at risk for not receiving comprehensive primary care. R/R systems also can be established independently for improving attendance for child health supervision visits and other recommended preventive health service visits, including adult vaccination (3), cervical cancer screening (4), and lead screening. The cost-effectiveness of R/R systems for a provider can be dependent on the number of patients, the documented level of vaccination coverage, the provider's level of computerization, and the intensity with which the provider uses the R/R system (5,6).

Properly implemented, the R/R strategy contributes to high, sustainable vaccination coverage levels. Studies of the effectiveness of mail or telephone reminder messages generally have demonstrated improvements in patient compliance for a variety of scheduled health-care visits, including vaccinations (7-9). Among patients scheduled for a vaccination visit who received a single autodialer-based reminder call the night before a scheduled visit, attendance was 57% compared with 20% in the control group who received no reminder (6); 41% of patients who received a vaccination R/R message visited the provider within 30 days compared with 28% of those who did not receive a reminder (10).

The ACIP, AAFP, and AAP recommend the regular use of R/R systems by public and private health-care providers in settings that have not achieved high documented levels of age-appropriate vaccinations. For reminder systems, messages should be delivered close to the due date for vaccinations. In recall systems, messages should be delivered promptly if the scheduled visit is missed. Implementation of these recommendations can contribute substantially to improving vaccination coverage at the provider level.

Reported by: Advisory Committee on Immunization Practices, Atlanta, Georgia. American Academy of Family Physicians, Kansas City, Missouri. American Academy of Pediatrics, Elk Grove Village, Illinois. Immunization Svcs Div, National Immunization Program, CDC.

References

1. Szilagyi PG, Rodewald LE, Humiston SG, et al. Immunization practices of pediatricians and family physicians in the United States. *Pediatrics* 1994;94:517-23.
2. Ad Hoc Working Group for the Development of Standards for Pediatric Immunization Practices. Standards for pediatric immunization practices. *JAMA* 1993;269:1817-22.

Notices to Readers — Continued

3. Barton MB, Schoenbaum SC. Improving influenza vaccination performance in an HMO setting: the use of computer-generated reminders and peer comparison feedback. *Am J Public Health* 1990;80:534-6.
4. Austin SM, Balas EA, Mitchell JA, Ewigman BG. Effect of physician reminders on preventive care: meta-analysis of randomized clinical trials. *Proc 18th Annu Symp Comput Appl Med Care* 1994;121-4.
5. Lieu TA, Black SB, Ray P, et al. Computer-generated recall letters for underimmunized children: how cost-effective? *Pediatr Infect Dis J* 1997;16:28-33.
6. Dini EF, Linkins RW, Chaney M. Effectiveness of computer-generated telephone messages in increasing clinic visits. *Arch Pediatr Adolesc Med* 1995;149:902-5.
7. Campbell JR, Szilagyi PG, Rodewald LE, Doane C, Roghmann KJ. Patient-specific reminder letters and pediatric well-child-care show rates. *Clinical Pediatrics* 1994;33:268-72.
8. Quattlebaum TG, Darden PM, Sperry JB. Effectiveness of computer-generated appointment reminders. *Pediatrics* 1991;88:801-5.
9. Nazarian LF, Mechaber J, Charney E, Coulter MP. Effect of a mailed appointment reminder on appointment keeping. *Pediatrics* 1974;53:349-52.
10. Linkins RW, Dini EF, Watson G, Patriarca PA. A randomized trial of the effectiveness of computer-generated telephone messages in increasing immunization visits among preschool children. *Arch Pediatr Adolesc Med* 1994;148:908-14.

Notice to Readers**Satellite Broadcast on Immunization Update**

Immunization Update 1998, a live satellite broadcast, will be held September 10, 1998, from 9 a.m. to 11:30 a.m. eastern daylight time (EDT) with a repeat broadcast from 1 p.m. to 3:30 p.m. EDT. Cosponsors are CDC and the Public Health Training Network. This broadcast is designed for physicians, nurses, physician assistants, nurse practitioners, pharmacists, medical students, and others who provide vaccinations and counsel patients about vaccination. Topics will include new vaccines for rotavirus and Lyme disease, live attenuated influenza vaccine, and new recommendations for the use of measles-containing vaccine and the vaccination of health-care workers.

Participants will be able to interact with the instructors through toll-free telephone, fax, and TTY lines. Continuing education credits for various professions will be offered based on 2.5 hours of instruction.

Additional information and registration are available from state or county health department immunization programs. A list of state immunization coordinators is available on the World-Wide Web, <http://www.cdc.gov/phtn>.

Notice to Readers**Final 1997 Reports of Notifiable Diseases**

The notifiable diseases tables on pages 725-730 summarize final data for 1997. These data, final as of August 10, 1998, will be published in more detail in the *Summary of Notifiable Diseases, United States, 1997* (1).

Because no cases of anthrax or yellow fever were reported in the United States during 1997, these nationally notifiable diseases do not appear in these tables.

Notices to Readers — Continued

Population estimates for the states are from the July 1, 1997, estimates by the U.S. Department of Commerce, Economics and Statistics Administration, Bureau of the Census, Population Division, Population Branch, press release PPL-91. Population numbers for territories are 1997 estimates from Bureau of the Census press releases CB98-54 and CB98-80.

Reference

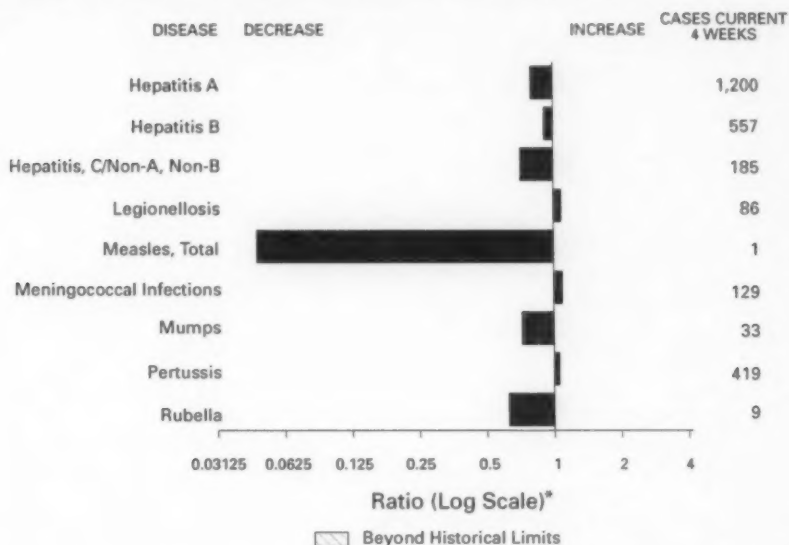
1. CDC. Summary of notifiable diseases, United States, 1997. MMWR 1997;46(no. 53)(in press).

Errata: Vol. 47, No. 30

In the article, "Deaths Among Children During an Outbreak of Hand, Foot, and Mouth Disease—Taiwan, Republic of China, April–July 1998," two errors occurred. On page 632, the number of cases in Malaysia during April–June 1997 at the beginning of the seventh line of the first paragraph should read (29 cases). On the same page, the name in the personal communication in the last full line of the first paragraph was incorrect. It should read (*M. Taha Arif, Sarawak Health Department, Kuching, Sarawak, Malaysia, personal communication, 1997*).

Errata: Vol. 47, No. 33

In the article "Success in Implementing Public Health Service Guidelines to Reduce Perinatal Transmission of HIV—Louisiana, Michigan, New Jersey, and South Carolina, 1992, 1995, and 1996," there were two errors. An incorrect number appeared in Table 1 on page 689; in the first category, number of women tested for human immunodeficiency virus infection before delivery, the number for 1993 should have been 495. On page 690 in the "Reported by" section, the affiliation was incorrect for H Malamud, MPH, L Scott, and E Mokotoff; it should be Michigan Dept of Community Health.

FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending August 29, 1998, with historical data — United States

*Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary — provisional cases of selected notifiable diseases, United States, cumulative, week ending August 29, 1998 (34th Week)

	Cum. 1998		Cum. 1998
Anthrax	-	Plague	6
Brucellosis	33	Poliomyelitis, paralytic	1
Cholera	6	Psittacosis	27
Congenital rubella syndrome	3	Rabies, human	-
Cryptosporidiosis*	1,419	Rocky Mountain spotted fever (RMSF)	185
Diphtheria	2	Streptococcal disease, invasive Group A	1,557
Encephalitis: California*	36	Streptococcal toxic-shock syndrome*	39
eastern equine*	2	Syphilis, congenital†	185
St. Louis*	2	Tetanus	28
western equine*	-	Toxic-shock syndrome	84
Hansen Disease	73	Trichinosis	9
Hantavirus pulmonary syndrome*†	10	Typhoid fever	209
Hemolytic uremic syndrome, post-diarrheal*	42	Yellow fever	-
HIV infection, pediatric*‡	145		

-: no reported cases

*Not notifiable in all states.

† Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (NCID).

‡ Updated monthly to the Division of HIV/AIDS Prevention—Surveillance and Epidemiology, National Center for HIV, STD, and

TB Prevention (NCHSTP), last update July 26, 1998.

§ Updated from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending August 29, 1998, and August 23, 1997 (34th Week)

Reporting Area	AIDS		Chlamydia		Escherichia coli O157:H7		Gonorrhea		Hepatitis C/NA/NB	
	Cum. 1998*	Cum. 1997	Cum. 1998	Cum. 1997	NETSS†		Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997
					NETSS†	PHLIS‡				
UNITED STATES	27,399	37,890	349,491	291,935	1,688	1,019	209,733	184,041	2,337	2,302
NEW ENGLAND	1,025	1,711	12,057	11,312	231	161	3,683	3,811	32	44
Maine	21	36	655	646	25	-	44	37	-	-
N.H.	26	26	592	510	30	34	57	67	-	-
Vt.	14	24	271	256	10	7	25	36	-	2
Mass.	522	598	5,478	4,654	112	104	1,396	1,405	29	35
R.I.	78	107	1,521	1,285	8	1	239	293	3	7
Conn.	364	920	4,340	3,961	46	15	1,922	1,973	-	-
MID. ATLANTIC	7,578	11,938	42,746	36,715	177	36	24,287	23,650	270	212
Upstate N.Y.	961	1,923	N	N	127	-	3,749	4,022	207	156
N.Y. City	4,074	6,231	23,035	17,442	4	7	10,052	8,704	-	-
N.J.	1,475	2,352	7,108	6,539	46	28	4,475	4,847	-	-
Pa.	1,068	1,432	12,803	12,734	N	1	6,011	6,077	63	56
E.N. CENTRAL	2,078	2,697	57,978	39,112	263	177	40,392	25,259	345	403
Ohio	430	640	16,554	14,207	79	39	10,487	9,218	7	12
Ind.	355	408	4,049	5,758	62	31	2,629	3,853	4	12
Ill.	825	893	17,302	U	61	14	14,186	U	23	68
Mich.	353	582	13,590	12,070	61	38	10,371	9,183	311	290
Wis.	115	174	6,483	7,077	N	55	2,719	3,005	-	21
W.N. CENTRAL	532	758	20,235	20,350	241	196	9,841	8,966	115	45
Minn.	104	128	4,046	4,249	97	91	1,493	1,486	7	3
Iowa	49	75	2,063	2,858	71	35	660	756	7	22
Mo.	244	377	7,648	7,753	15	40	5,441	4,808	96	8
N. Dak.	4	7	616	534	7	13	51	36	-	2
S. Dak.	11	7	1,034	812	17	10	160	90	-	-
Nebr.	48	65	1,397	1,207	19	-	498	448	2	2
Kans.	72	99	3,431	2,937	15	7	1,538	1,342	3	8
S. ATLANTIC	6,889	9,143	71,632	61,517	150	88	59,219	60,238	128	154
Del.	91	159	1,655	-	-	1	909	764	-	-
Md.	826	1,078	5,315	4,623	20	10	6,108	7,587	6	4
D.C.	567	658	N	N	1	-	2,318	2,873	-	-
Va.	502	767	8,014	7,690	N	28	5,296	5,297	10	19
W. Va.	59	61	1,747	1,898	7	4	518	524	4	13
N.C.	456	597	14,696	11,075	38	34	12,697	10,824	17	38
S.C.	452	498	12,049	8,199	5	3	7,587	7,526	3	30
Ge.	725	1,072	15,016	11,157	50	-	13,213	12,811	9	-
Fla.	3,191	4,253	13,140	16,875	29	8	10,573	11,932	79	50
E.S. CENTRAL	1,084	1,294	25,148	22,411	79	27	24,525	22,389	127	243
Ky.	156	237	4,137	4,253	21	-	2,402	2,688	16	11
Tenn.	378	527	8,564	8,209	35	24	7,505	6,946	104	160
Ala.	330	333	6,610	5,485	20	2	8,473	7,705	5	6
Miss.	220	197	5,837	4,464	3	1	6,145	5,050	2	66
W.S. CENTRAL	3,328	4,105	51,641	36,745	82	12	30,057	24,304	460	298
Ark.	123	159	2,359	1,939	7	6	1,233	3,152	6	9
La.	586	665	9,710	6,132	3	2	8,418	5,733	21	138
Okla.	183	216	6,509	4,900	11	4	3,563	3,085	8	6
Tex.	2,436	3,065	33,063	23,774	61	-	16,843	12,334	425	145
MOUNTAIN	967	1,103	13,961	19,012	223	149	5,289	5,113	287	198
Mont.	18	33	793	679	11	-	29	29	7	15
Idaho	19	34	1,124	993	25	7	110	78	86	40
Wyo.	1	13	399	381	49	53	18	36	69	47
Colo.	186	292	10	4,457	46	38	1,465	1,328	19	22
N. Mex.	153	112	2,337	2,514	17	13	578	580	68	34
Ariz.	377	247	7,184	6,959	21	13	2,622	2,295	3	24
Utah	70	93	1,471	1,081	48	17	157	161	21	3
Nev.	143	279	643	1,948	6	8	310	606	14	13
PACIFIC	3,938	5,141	53,293	44,761	242	173	12,440	10,311	573	705
Wash.	270	417	7,018	5,879	41	56	1,210	1,228	13	20
Oreg.	116	188	3,710	3,134	66	72	546	483	4	2
Calif.	3,439	4,450	39,962	33,684	132	35	10,185	8,019	501	569
Alaska	17	42	1,238	963	3	-	213	254	1	-
Hawaii	96	44	1,365	1,101	N	10	286	327	54	114
Guam	-	2	8	193	N	-	2	27	-	-
P.R.	1,141	1,199	U	U	6	U	256	400	-	-
V.I.	18	70	N	U	N	U	U	U	U	U
Amer. Samoa	-	-	N	U	N	U	U	U	U	U
C.N.M.I.	-	1	N	U	N	U	U	U	U	U

N: Not notifiable U: Unavailable - : no reported cases

C.N.M.I.: Commonwealth of Northern Mariana Islands

*Updated monthly to the Division of HIV/AIDS Prevention-Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention, last update July 26, 1998.

†National Electronic Telecommunications System for Surveillance.

‡Public Health Laboratory Information System.

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending August 29, 1998, and August 23, 1997 (34th Week)

Reporting Area	Legionellosis		Lyme Disease		Malaria		Syphilis (Primary & Secondary)		Tuberculosis		Rabies, Animal
	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998*	Cum. 1997	Cum. 1998
UNITED STATES	774	583	7,187	6,758	796	1,171	4,695	5,481	8,888	11,435	4,607
NEW ENGLAND	38	48	1,923	1,890	40	65	46	104	279	282	933
Maine	1	2	6	8	4	1	1	-	5	17	134
N.H.	3	5	28	12	3	6	1	-	6	10	44
Vt.	4	9	7	6	-	2	4	-	1	4	42
Mass.	13	14	406	241	13	25	28	49	153	156	334
R.I.	8	5	311	219	2	5	1	2	36	20	60
Conn.	9	13	1,165	1,404	18	26	11	53	78	75	319
MID. ATLANTIC	197	111	4,451	3,895	195	356	176	263	1,854	2,045	1,081
Upstate N.Y.	64	29	2,675	1,581	57	52	23	24	232	283	757
N.Y. City	123	12	12	139	86	220	41	58	945	1,038	U
N.J.	11	16	808	1,173	30	63	55	107	400	414	133
Pa.	99	54	956	802	22	21	57	74	277	310	191
E.N. CENTRAL	233	191	72	356	78	110	672	416	783	1,161	99
Ohio	96	79	50	24	9	13	85	141	63	193	45
Ind.	46	29	16	19	10	10	160	102	76	92	8
Ill.	16	15	5	10	22	45	252	U	411	605	10
Mich.	51	43	1	21	33	30	130	93	230	192	27
Wis.	24	25	U	282	4	12	45	80	3	79	9
W.N. CENTRAL	48	35	123	81	56	32	87	117	256	366	514
Minn.	3	1	98	55	29	10	6	14	98	95	91
Iowa	7	9	18	5	7	8	-	6	23	43	115
Mo.	14	5	1	15	10	7	68	71	86	145	19
N. Dak.	-	2	-	-	2	2	-	-	8	102	8
S. Dak.	3	2	-	1	-	-	1	-	14	7	109
Nebr.	15	12	3	2	1	1	4	2	11	14	6
Kans.	6	4	3	3	7	4	8	24	18	54	72
S. ATLANTIC	97	75	439	508	183	201	1,923	2,260	1,323	2,092	1,343
Del.	8	7	12	103	1	3	17	16	U	21	17
Md.	20	14	294	323	55	60	419	612	194	204	332
D.C.	6	3	4	7	12	11	49	77	67	66	-
Va.	16	15	43	31	37	50	104	162	174	194	386
W. Va.	N	N	8	3	1	-	2	3	29	42	59
N.C.	8	10	41	23	14	12	473	546	271	270	136
S.C.	7	3	3	1	4	10	195	267	195	224	98
Ga.	7	-	5	1	22	24	511	361	323	393	165
Fla.	24	23	29	16	37	31	153	216	70	678	140
E.S. CENTRAL	46	40	55	61	20	23	784	1,211	742	863	195
Ky.	21	7	13	12	4	6	73	95	115	117	27
Tenn.	13	24	29	26	10	6	376	522	223	313	106
Ala.	5	2	12	5	4	8	179	303	265	277	60
Miss.	7	7	1	18	2	3	156	291	139	156	2
W.S. CENTRAL	19	12	19	55	17	17	650	771	958	1,690	122
Ark.	-	1	6	15	1	4	77	116	76	126	27
La.	2	2	3	2	6	8	276	239	73	148	-
Okla.	8	1	2	11	3	5	44	81	113	148	95
Tex.	9	8	8	27	7	-	253	335	696	1,268	-
MOUNTAIN	46	38	10	7	38	56	144	108	280	374	128
Mont.	2	1	-	-	-	-	-	-	16	6	35
Idaho	2	2	3	2	7	-	-	-	8	7	-
Wyo.	1	1	-	1	-	2	1	-	4	2	49
Colo.	12	13	3	-	13	26	8	10	U	62	U
N. Mex.	2	2	2	1	11	7	19	4	37	36	4
Ariz.	10	8	-	1	6	7	110	81	138	169	12
Utah	16	7	-	-	1	3	3	5	43	18	9
Nev.	1	4	2	2	-	9	3	8	34	74	-
PACIFIC	50	33	95	105	169	311	213	231	2,413	2,562	192
Wash.	9	6	5	5	16	16	23	7	148	206	-
Oreg.	-	-	11	14	13	15	4	5	84	108	1
Calif.	39	26	78	86	136	272	184	217	2,044	2,069	169
Alaska	1	-	1	-	1	3	1	1	31	55	22
Hawaii	1	1	-	-	3	5	1	1	106	124	-
Guam	-	-	-	-	-	-	-	3	-	13	-
P.R.	-	-	-	-	-	5	131	169	68	129	33
V.I.	U	U	U	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	-	-	-	-	-	98	9	56	2	-

N: Not notifiable U: Unavailable -: no reported cases

*Additional information about areas displaying "U" for cumulative 1998 Tuberculosis cases can be found in Notice to Readers, MMWR Vol. 47, No. 2, p. 39.

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending August 29, 1998, and August 23, 1997 (34th Week)

Reporting Area	<i>H. influenzae</i> , invasive		Hepatitis (Viral), by type				Measles (Rubeola)				Total	
	Cum. 1998*	Cum. 1997	A		B		Indigenous		Imported [†]		Cum. 1998	Cum. 1997
			Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	1998	Cum. 1998	1998	Cum. 1998		
UNITED STATES	715	745	14,253	18,112	5,381	6,132	-	29	-	18	47	105
NEW ENGLAND	39	42	159	457	107	113	-	1	-	2	3	19
Maine	2	4	15	47	2	6	-	-	-	-	-	1
N.H.	7	6	8	21	11	7	-	-	-	-	-	1
Vt.	5	3	13	8	3	6	-	-	-	1	1	-
Mass.	22	25	46	194	22	49	-	1	-	1	2	16
R.I.	2	2	11	103	51	12	-	-	-	-	-	-
Conn.	1	2	66	84	18	33	-	-	-	-	-	1
MID. ATLANTIC	100	111	975	1,411	768	898	-	9	-	4	13	23
Upstate N.Y.	41	32	234	216	205	187	-	2	-	-	2	5
N.Y. City	20	30	238	629	196	340	-	-	-	-	-	7
N.J.	34	34	224	203	144	164	-	7	-	1	8	3
Pa.	5	15	279	363	223	207	-	-	-	3	3	8
E.N. CENTRAL	122	124	2,037	1,863	549	996	-	11	-	3	14	9
Ohio	42	69	228	226	53	57	-	-	-	1	1	-
Ind.	31	12	110	208	70	74	-	2	-	1	3	-
Ill.	42	28	336	500	111	190	-	-	-	-	-	7
Mich.	3	15	1,242	792	290	292	-	9	-	1	10	2
Wis.	4	-	121	137	25	383	-	-	-	-	-	-
W.N. CENTRAL	70	38	981	1,415	262	322	-	-	-	-	-	12
Minn.	55	27	90	129	31	25	-	-	-	-	-	3
Iowa	2	4	376	277	47	26	-	-	-	-	-	-
Mo.	8	-	391	722	151	234	-	-	-	-	-	1
N. Dak.	-	-	3	10	4	4	-	-	-	-	-	-
S. Dak.	-	2	21	17	1	1	-	-	-	-	-	8
Nebr.	-	1	24	63	9	9	-	-	-	-	-	-
Kans.	5	-	76	197	19	23	-	-	-	-	-	-
S. ATLANTIC	147	117	1,217	1,092	797	799	-	3	-	5	8	10
Del.	-	-	3	23	-	4	-	-	-	1	1	-
Md.	41	44	202	135	107	113	-	-	-	1	1	2
D.C.	-	-	38	17	8	25	U	-	U	-	-	1
Va.	13	10	153	143	72	82	-	-	-	2	2	1
W. Va.	4	3	3	8	5	11	-	-	-	-	-	-
N.C.	22	17	74	126	150	171	-	-	-	-	-	1
S.C.	3	4	22	74	24	68	-	-	-	-	-	1
Ga.	32	23	360	242	123	90	-	1	-	1	2	1
Fla.	32	16	362	324	308	235	-	2	-	-	2	3
E.S. CENTRAL	40	40	269	429	267	465	-	-	-	1	1	1
Ky.	6	6	17	53	30	27	-	-	-	-	-	-
Tenn.	22	24	157	266	187	299	-	-	-	-	-	-
Ala.	10	8	52	60	49	46	-	-	-	1	1	1
Miss.	2	2	43	50	1	93	-	-	-	-	-	-
W.S. CENTRAL	42	33	2,779	3,681	914	755	-	-	-	-	-	7
Ark.	-	2	68	157	57	56	-	-	-	-	-	-
La.	19	7	51	139	66	95	-	-	-	-	-	-
Okl.	20	22	388	1,053	59	27	-	-	-	-	-	-
Tex.	3	2	2,272	2,332	732	577	-	-	-	-	-	7
MOUNTAIN	74	70	2,163	2,813	560	585	-	-	-	-	-	7
Mont.	-	-	72	58	5	6	-	-	-	-	-	-
Idaho	-	1	187	97	23	24	-	-	-	-	-	-
Wyo.	1	3	27	24	4	20	-	-	-	-	-	-
Colo.	16	13	191	292	75	109	-	-	-	-	-	-
N. Mex.	5	7	108	223	233	180	-	-	-	-	-	-
Ariz.	41	28	1,352	1,398	138	137	-	-	-	-	-	5
Utah	4	3	141	423	51	65	-	-	-	-	-	-
Nev.	7	15	85	298	31	44	U	-	U	-	-	2
PACIFIC	81	170	3,673	4,951	1,157	1,199	-	5	-	3	8	17
Wash.	7	3	716	359	73	51	-	-	-	1	1	1
Oreg.	34	27	252	246	74	73	-	-	-	-	-	-
Calif.	32	130	2,659	4,219	996	1,056	-	4	-	2	6	12
Alaska	1	3	15	25	9	11	-	1	-	-	1	-
Hawaii	7	7	31	102	5	8	-	-	-	-	-	4
Guam	-	-	-	-	-	3	U	-	U	-	-	-
P.R.	2	-	-	-	-	502	-	-	-	-	-	-
V.I.	U	U	47	215	314	U	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	6	3	1	28	34	U	-	U	-	-	1

N: Not notifiable U: Unavailable - : no reported cases

*Of 167 cases among children aged <5 years, serotype was reported for 94 and of those, 36 were type b.

†For imported measles, cases include only those resulting from importation from other countries.

TABLE III. (Cont'd.) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending August 29, 1998, and August 23, 1997 (34th Week)

Reporting Area	Meningococcal Disease		Mumps			Pertussis			Rubella		
	Cum. 1998	Cum. 1997	1998	Cum. 1998	Cum. 1997	1998	Cum. 1998	Cum. 1997	1998	Cum. 1998	Cum. 1997
UNITED STATES	1,865	2,328	8	330	412	161	3,254	3,469	7	303	129
NEW ENGLAND	76	144	-	2	8	32	541	648	-	36	1
Maine	5	16	-	-	-	-	5	7	-	-	-
N.H.	4	12	-	-	-	-	46	38	-	-	-
Vt.	1	3	-	-	-	-	57	82	-	-	-
Mass.	38	72	-	1	2	28	395	348	-	6	1
R.I.	3	13	-	-	5	-	7	12	-	1	-
Conn.	25	28	-	1	1	3	31	14	-	29	-
MID. ATLANTIC	174	245	1	19	46	13	356	253	-	124	30
Upstate N.Y.	45	68	1	4	10	13	196	99	-	110	4
N.Y. City	19	42	-	4	3	-	9	57	-	9	26
N.J.	46	45	-	2	7	-	5	11	-	4	-
Pa.	64	90	-	9	26	-	146	86	-	1	-
E.N. CENTRAL	288	340	1	57	52	36	346	366	-	-	5
Ohio	108	125	-	21	18	32	169	103	-	-	-
Ind.	51	37	-	5	7	-	70	38	-	-	-
Ill.	69	99	-	10	8	2	45	48	-	-	-
Mich.	35	50	1	21	16	-	45	45	-	1	-
Wis.	25	29	-	-	3	-	17	132	-	-	4
W.N. CENTRAL	153	167	3	24	13	15	272	220	-	27	-
Minn.	28	29	2	12	5	9	168	142	-	-	-
Iowa	29	38	1	8	6	-	52	11	-	-	-
Mo.	53	72	-	3	-	5	22	40	-	2	-
N. Dak.	3	1	-	1	-	-	2	1	-	-	-
S. Dak.	6	4	-	-	-	1	8	3	-	-	-
Nebr.	7	7	-	-	1	-	8	5	-	-	-
Kans.	27	16	-	-	1	-	12	18	-	25	-
S. ATLANTIC	324	393	-	39	48	14	199	302	3	13	59
Del.	1	5	-	-	-	-	3	1	-	-	-
Md.	24	36	-	-	1	3	34	96	-	1	-
D.C.	-	7	U	-	-	U	1	3	U	-	-
Va.	26	39	-	5	9	-	9	34	-	-	1
W. Va.	12	14	-	-	-	-	1	6	-	-	-
N.C.	47	76	-	9	8	5	74	85	3	9	51
S.C.	45	42	-	5	10	-	22	15	-	-	6
Ga.	68	77	-	1	6	-	10	8	-	-	-
Fla.	101	97	-	19	14	6	45	54	-	3	1
E.S. CENTRAL	162	176	1	12	22	5	77	93	-	2	1
Ky.	20	38	-	-	3	2	25	38	-	-	-
Tenn.	51	61	-	1	3	3	27	27	-	1	-
Ala.	69	55	1	7	6	-	22	19	-	1	1
Miss.	22	22	-	4	10	-	3	9	-	-	-
W.S. CENTRAL	212	217	-	48	44	6	230	147	4	83	4
Ark.	26	25	-	7	1	4	44	13	-	-	-
La.	46	46	-	8	11	1	3	13	-	-	-
Okla.	31	24	-	-	-	-	18	19	-	-	-
Tex.	109	122	-	33	32	1	165	102	4	83	4
MOUNTAIN	106	136	1	29	49	7	632	846	-	5	6
Mont.	4	7	-	-	-	1	5	15	-	-	-
Idaho	7	8	-	4	2	-	196	479	-	-	2
Wyo.	6	1	-	1	1	-	8	6	-	-	-
Colo.	23	36	1	8	3	4	138	233	-	-	-
N. Mex.	17	23	N	N	N	1	76	64	-	1	-
Ariz.	34	36	-	5	31	-	139	24	-	1	4
Utah	11	11	-	4	6	1	47	12	-	2	-
Nev.	4	14	U	7	6	U	23	13	U	1	-
PACIFIC	370	510	1	100	130	33	601	594	-	13	23
Wash.	50	64	-	7	14	25	221	249	-	9	5
Oreg.	62	98	N	N	N	3	60	25	-	-	-
Calif.	252	341	1	74	81	1	303	289	-	2	10
Alaska	2	2	-	2	6	4	11	16	-	-	-
Hawaii	4	5	-	17	19	-	6	15	-	2	8
Guam	-	1	U	-	1	U	-	-	U	-	-
P.R.	6	8	-	1	5	-	3	-	U	-	-
V.I.	U	U	U	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	-	U	2	4	U	1	-	U	-	-

N: Not notifiable

U: Unavailable

-: no reported cases

TABLE IV. Deaths in 122 U.S. cities,* week ending
August 29, 1998 (34th Week)

Reporting Area	All Causes, By Age (Years)						F&I [†] Total	Reporting Area	All Causes, By Age (Years)						F&I [†] Total
	All Ages	>65	45-64	25-44	1-24	<1			All Ages	>65	45-64	25-44	1-24	<1	
NEW ENGLAND	566	407	101	37	13	8	41	S. ATLANTIC	1,201	740	261	121	33	26	55
Boston, Mass.	168	111	36	12	3	6	7	Atlanta, Ga.	131	79	32	12	5	3	-
Bridgeport, Conn.	41	26	8	6	1	-	-	Baltimore, Md.	189	104	50	29	6	-	15
Cambridge, Mass.	23	20	3	-	-	-	3	Charlotte, N.C.	91	59	15	9	1	7	9
Fall River, Mass.	25	22	2	1	-	-	2	Jacksonville, Fla.	108	72	22	12	1	1	2
Hartford, Conn.	54	42	5	5	2	-	4	Miami, Fla.	110	69	24	11	2	4	-
Lowell, Mass.	21	14	5	1	1	-	1	Norfolk, Va.	28	12	10	2	2	2	1
Lynn, Mass.	9	8	-	1	-	-	-	Richmond, Va.	68	46	9	8	5	-	2
New Bedford, Mass.	16	14	1	1	-	-	-	Savannah, Ga.	41	25	10	3	2	1	2
New Haven, Conn.	36	21	10	2	2	1	2	St. Petersburg, Fla.	56	29	5	-	-	-	2
Providence, R.I.	50	34	9	4	2	1	5	Tampa, Fla.	169	112	40	13	1	3	17
Somerville, Mass.	5	5	-	-	-	-	-	Washington, D.C.	186	117	39	20	7	3	4
Springfield, Mass.	35	28	6	1	-	-	5	Wilmington, Del.	24	16	5	2	1	-	-
Waterbury, Conn.	33	22	7	3	1	-	4	E.S. CENTRAL	821	528	174	69	25	23	42
Worcester, Mass.	50	40	9	-	1	-	7	Birmingham, Ala.	190	119	35	19	5	10	17
MID. ATLANTIC	2,080	1,440	389	161	33	37	85	Chattanooga, Tenn.	62	42	14	4	2	-	3
Albany, N.Y.	46	34	7	3	-	2	3	Knoxville, Tenn.	65	45	12	4	3	1	2
Allentown, Pa.	26	26	-	-	-	-	1	Lexington, Ky.	49	32	8	4	4	1	2
Buffalo, N.Y.	75	53	12	4	2	4	5	Memphis, Tenn.	205	125	55	15	5	5	10
Camden, N.J.	31	17	6	4	1	3	2	Mobile, Ala.	68	42	14	5	4	3	2
Elizabeth, N.J.	16	9	4	3	-	-	-	Montgomery, Ala.	29	16	4	2	-	1	3
Erie, Pa.	46	38	8	-	-	-	-	Nashville, Tenn.	153	101	32	16	2	2	3
Jersey City, N.J.	23	14	5	3	-	1	-	W.S. CENTRAL	1,348	864	272	121	63	28	58
New York City, N.Y.	1,044	715	214	86	16	13	51	Austin, Tex.	58	38	12	7	1	1	2
Newark, N.J.	61	22	18	16	2	3	1	Baton Rouge, La.	46	24	7	8	6	1	2
Paterson, N.J.	25	13	8	4	-	-	-	Corpus Christi, Tex.	48	36	6	5	-	1	2
Philadelphia, Pa.	300	224	47	18	6	5	12	Dallas, Tex.	189	104	41	28	10	6	6
Pittsburgh, Pa.	46	33	8	3	-	-	1	El Paso, Tex.	68	45	10	6	5	2	2
Reading, Pa.	28	23	3	1	-	1	1	Ft. Worth, Tex.	103	64	21	9	5	4	5
Rochester, N.Y.	98	70	22	5	1	-	2	Houston, Tex.	379	255	68	29	20	7	22
Schenectady, N.Y.	27	23	2	2	-	-	-	Little Rock, Ark.	67	45	13	4	3	2	3
Scranton, Pa.	27	21	4	2	-	-	1	New Orleans, La.	91	52	23	9	6	1	-
Syracuse, N.Y.	99	74	16	3	3	3	3	San Antonio, Tex.	190	132	41	9	4	4	10
Trenton, N.J.	21	17	1	2	1	-	2	Shreveport, La.	U	U	U	U	U	U	U
Utica, N.Y.	21	14	4	2	1	-	1	Tulsa, Okla.	109	69	30	7	3	-	4
Yonkers, N.Y.	U	U	U	U	U	U	U	MOUNTAIN	899	559	190	84	36	30	49
E.N. CENTRAL	1,621	1,087	320	138	37	39	70	Albuquerque, N.M.	115	74	23	9	6	3	6
Akron, Ohio	31	33	12	5	-	1	-	Boise, Idaho	32	21	5	4	2	-	1
Canton, Ohio	35	25	8	1	1	-	3	Colo. Springs, Colo.	55	37	13	3	1	1	3
Chicago, Ill.	U	U	U	U	U	U	U	Denver, Colo.	93	53	21	11	3	5	7
Cincinnati, Ohio	94	65	18	6	2	3	4	Las Vegas, Nev.	157	99	33	16	7	2	5
Cleveland, Ohio	147	92	28	18	5	4	3	Ogden, Utah	24	16	4	1	-	3	1
Columbus, Ohio	167	117	30	12	3	5	18	Phoenix, Ariz.	181	102	39	22	10	8	10
Dayton, Ohio	124	85	25	10	3	1	3	Pueblo, Colo.	28	18	3	5	2	-	3
Detroit, Mich.	191	109	47	25	4	6	8	Salt Lake City, Utah	98	61	25	5	2	5	10
Evansville, Ind.	53	41	8	1	1	2	2	Tucson, Ariz.	116	78	24	8	3	3	3
Fort Wayne, Ind.	61	44	12	4	1	-	2	PACIFIC	1,836	1,289	321	135	43	47	125
Gary, Ind.	12	6	2	3	1	-	-	Berkeley, Calif.	18	11	2	3	-	2	-
Grand Rapids, Mich.	45	34	8	2	1	-	4	Fresno, Calif.	69	51	12	2	1	3	3
Indianapolis, Ind.	171	116	28	16	6	5	-	Glendale, Calif.	25	21	3	1	-	-	2
Lansing, Mich.	47	31	11	3	-	2	2	Honolulu, Hawaii	76	57	15	1	1	2	8
Milwaukee, Wis.	136	87	27	14	2	6	11	Long Beach, Calif.	62	48	8	4	1	1	10
Peoria, Ill.	57	41	12	1	1	2	2	Los Angeles, Calif.	518	304	102	45	20	11	27
Rockford, Ill.	52	34	11	6	1	-	3	Pasadena, Calif.	26	18	4	3	1	-	-
South Bend, Ind.	47	39	3	1	2	2	2	Portland, Oreg.	86	62	8	11	5	-	5
Toledo, Ohio	70	44	19	6	1	-	1	Sacramento, Calif.	166	125	25	8	1	7	11
Youngstown, Ohio	61	44	11	4	2	-	2	San Diego, Calif.	163	104	35	14	5	5	20
W.N. CENTRAL	860	610	148	83	28	11	43	San Francisco, Calif.	128	75	36	14	1	1	10
Des Moines, Iowa	49	34	11	2	2	-	1	San Jose, Calif.	212	170	22	12	2	6	18
Duluth, Minn.	28	23	4	1	-	-	-	Santa Cruz, Calif.	21	16	3	1	-	-	1
Kansas City, Kans.	75	49	13	9	4	-	1	Seattle, Wash.	126	84	26	8	-	5	2
Kansas City, Mo.	78	55	13	10	-	-	1	Spokane, Wash.	62	46	9	4	-	3	3
Lincoln, Nebr.	33	24	5	3	1	-	3	Tacoma, Wash.	78	61	11	4	1	1	5
Minneapolis, Minn.	161	123	25	6	5	2	7	TOTAL	11,212 [†]	7,524	2,176	929	311	249	588
Omaha, Nebr.	84	54	19	7	2	2	7								
St. Louis, Mo.	112	77	21	8	5	1	14								
St. Paul, Minn.	77	61	11	4	-	1	5								
Wichita, Kans.	163	110	26	13	9	5	4								

U: Unavailable - : no reported cases

*Mortality data in this table are voluntarily reported from 122 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

[†]Pneumonia and influenza.

[‡]Because of changes in reporting methods in this Pennsylvania city, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

[§]Total includes unknown ages.

NOTIFIABLE DISEASES — Reported cases, by geographic division and area, United States, 1997

Area	Total resident population (in thousands)	AIDS*	Botulism		Brucellosis	Chancroid ¹	Chlamydia trachomatis infection ¹
			Foodborne	Infant			
United States	267,637	58,492	31	79	98	243	526,671
New England	13,379	2,372	—	—	1	4	18,433
Maine	1,242	51	—	—	—	—	1,066
N.H.	1,173	55	—	—	—	—	816
Vt.	589	29	—	—	—	—	434
Mass.	6,118	863	—	—	1	NN	7,984
R.I.	987	152	—	—	—	—	2,069
Conn.	3,270	1,222	—	—	—	—	6,064
Mid. Atlantic	38,216	18,327	—	17	3	119	58,853
N.Y. (excl. NYC)	10,828	3,858	—	2	1	—	NN
N.Y. City	7,309	9,331	—	—	—	119	28,468
N.J.	8,053	3,226	—	3	—	—	10,347
Pa.	12,020	1,912	—	12	2	—	19,338
E.N. Central	43,890	4,350	1	6	12	8	86,494
Ohio	11,186	848	—	3	2	3	22,827
Ind.	5,864	523	—	—	—	—	9,600
Ill.	11,896	1,842	1	1	7	5	23,024
Mich.	9,774	882	—	—	3	—	21,399
Wis.	5,170	255	NA	2	NA	—	9,554
W.N. Central	18,571	1,166	—	—	7	—	32,968
Minn.	4,686	214	—	—	—	—	6,631
Iowa	2,852	101	—	NN	4	—	4,907
Mo.	5,402	577	—	—	2	—	12,308
N. Dak.	641	13	—	—	NN	NN	902
S. Dak.	738	11	—	—	—	—	1,450
Nebr.	1,657	91	—	—	1	—	2,767
Kans.	2,595	159	—	—	—	—	4,003
S. Atlantic	48,230	13,858	1	3	8	30	106,486
Del.	732	231	—	—	—	—	2,613
Md.	5,094	1,875	—	—	—	1	13,763
D.C.	529	998	—	—	1	—	3,069
Va.	6,734	1,175	—	—	1	1	11,615
W. Va.	1,816	130	—	2	—	—	3,108
N.C.	7,425	850	1	—	3	9	17,108
S.C.	3,760	779	—	—	—	15	12,511
Ga.	7,486	1,722	—	1	1	1	15,911
Fla.	14,654	6,098	—	—	2	3	26,788
E.S. Central	16,326	2,062	—	—	2	2	36,437
Ky.	3,908	361	—	—	1	—	6,332
Tenn.	5,368	784	—	—	1	1	12,502
Ala.	4,319	570	—	—	—	1	8,704
Miss.	2,731	347	—	—	—	—	7,899
W.S. Central	29,631	6,337	1	11	20	57	72,139
Ark.	2,523	242	—	1	1	1	2,503
La.	4,352	1,094	—	1	—	3	11,545
Okla.	3,317	283	—	—	—	—	7,416
Tex.	19,439	4,718	1	9	19	53	50,675
Mountain	16,483	1,850	1	8	8	1	29,216
Mont.	879	41	—	—	—	—	1,146
Idaho	1,210	52	—	2	—	—	1,709
Wyo.	480	16	—	—	2	1	635
Colo.	3,893	380	—	—	2	—	7,196
N. Mex.	1,730	169	—	1	1	—	4,021
Ariz.	4,555	448	1	2	3	—	10,783
Utah	2,059	152	—	2	—	—	1,774
Nev.	1,677	592	—	1	—	—	1,952
Pacific	42,917	8,121	27	34	37	22	86,935
Wash.	5,610	641	3	—	3	2	9,574
Oreg.	3,243	305	2	2	1	1	5,270
Calif.	32,268	7,029	2	29	30	19	68,647
Alaska	609	52	19	—	—	—	1,615
Hawaii	1,187	94	—	3	3	—	1,829
Guam	145	2	—	—	—	—	368
P.R.	3,827	2,040	—	—	—	1	2,123
V.I.	114	99	—	—	—	—	14
American Samoa	60	—	NA	NA	NA	NA	NA
C.N.M.I.	63	1	—	—	—	—	NA

*Totals reported to Division of HIV/AIDS Prevention—Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP), through December 31, 1997. Total includes 49 cases in persons with unknown state of residence.

¹Cases were updated through the Division of Sexually Transmitted Diseases Prevention, NCHSTP, as of July 13, 1998.

NA: Not Available

NN: Not Notifiable

—: No reported cases

NOTIFIABLE DISEASES — Reported cases, by geographic division and area, United States, 1997 (continued)

Area	Cholera	Cryptosporidiosis	Diphtheria	Escherichia coli O157:H7		Gonorrhea ¹	Haemophilus influenzae, invasive
				NETSS*	PHLIS ²		
United States	6	2,566	4	2,555	1,658	324,907	1,162
New England	—	166	—	197	133	5,889	67
Maine	—	34	—	19	—	66	5
N.H.	—	6	—	15	16	96	13
Vt.	—	18	—	8	3	53	3
Mass.	—	62	—	99	95	2,225	40
R.I.	—	4	—	12	1	422	4
Conn.	—	42	—	44	18	3,027	2
Mid. Atlantic	—	528	—	167	56	39,947	184
N.Y. (excl. NYC)	—	328	—	111	—	6,801	69
N.Y. City	—	169	—	20	9	15,592	42
N.J.	—	31	—	36	27	7,587	53
Pa.	—	NN	—	NN	20	9,967	20
E.N. Central	1	523	—	574	302	59,591	172
Ohio	—	38	—	108	55	14,961	86
Ind.	—	46	—	82	49	6,155	24
Ill.	—	73	—	76	40	18,423	42
Mich.	1	46	—	152	108	15,736	19
Wis.	NN	320	—	156	50	4,316	1
W.N. Central	1	424	1	503	417	14,860	75
Minn.	1	242	—	199	210	2,417	57
Iowa	—	71	—	114	76	1,311	6
Mo.	—	38	—	58	69	7,941	8
N. Dak.	—	15	—	15	12	68	—
S. Dak.	—	23	1	29	37	173	3
Nebr.	—	21	—	58	—	1,210	1
Kans.	—	14	—	30	13	1,740	—
S. Atlantic	—	289	—	222	151	93,011	188
Del.	—	8	—	5	4	1,273	—
Md.	—	15	—	28	16	11,568	66
D.C.	—	—	—	2	—	4,557	—
Va.	—	NN	—	NN	46	8,731	15
W. Va.	—	1	—	NN	1	957	4
N.C.	—	NN	—	74	40	16,888	21
S.C.	—	—	—	13	9	11,487	5
Ga.	—	74	—	45	—	18,471	42
Fla.	—	191	—	55	35	19,079	35
E.S. Central	—	47	—	101	56	35,409	58
Ky.	—	20	—	30	—	4,027	8
Tenn.	—	17	—	50	40	11,023	32
Ala.	—	NN	—	14	13	12,032	15
Miss.	—	10	—	7	3	8,327	3
W.S. Central	1	88	—	83	33	46,532	60
Ark.	—	10	—	10	11	4,382	3
La.	—	23	—	18	12	10,782	19
Okl.	—	12	—	13	7	4,756	33
Tex.	1	43	—	42	3	26,612	5
Mountain	1	141	2	275	152	8,084	94
Mont.	—	5	—	21	9	66	1
Idaho	—	NN	—	38	25	158	1
Wyo.	—	4	—	15	13	54	4
Colo.	—	25	—	83	57	2,320	23
N. Mex.	—	67	—	7	6	857	9
Ariz.	1	20	—	42	31	3,802	35
Utah	—	—	—	57	—	278	3
Nev.	—	20	2	12	11	549	18
Pacific	2	360	1	433	358	21,584	264
Wash.	—	NN	—	150	147	1,968	7
Oreg.	—	32	1	87	98	773	38
Calif.	2	328	—	184	99	17,941	203
Alaska	—	—	—	12	5	392	8
Hawaii	—	NN	—	NN	9	510	—
Guam	—	—	—	NN	—	47	—
P.R.	—	—	—	5	—	526	—
V.I.	—	—	—	NA	—	40	—
American Samoa	NA	NA	NA	NA	NA	NA	NA
C.N.M.I.	—	—	—	NN	—	NA	6

*National Electronic Telecommunications System for Surveillance.

²Public Health Laboratory Information System. Cases were updated through the National Center for Infectious Diseases as of August 10, 1998.

³Cases were updated through the Division of Sexually Transmitted Diseases Prevention, NCHSTP, as of July 13, 1998.

NA: Not Available

NN: Not Notifiable

—: No reported cases

NOTIFIABLE DISEASES — Reported cases, by geographic division and area, United States, 1997 (continued)

Area	Hansen disease (leprosy)	Hepatitis			Legionellosis	Lyme disease	Malaria
		A	B	C/non-A, non-B			
United States	122	30,021	10,416	3,816	1,163	12,801	2,001
New England	-	650	190	58	93	3,111	101
Maine	NN	68	6	-	3	34	1
N.H.	-	35	18	-	7	39	10
Vt.	NN	15	11	4	13	9	2
Mass.	-	254	77	46	32	291	33
R.I.	-	131	22	8	18	442	13
Conn.	-	149	56	-	20	2,297	42
Mid. Atlantic	14	2,124	1,417	364	253	7,556	519
N.Y. (excl. NYC)	1	395	363	279	79	3,149	81
N.Y. City	10	907	460	-	27	178	310
N.J.	1	316	240	NA	30	2,041	88
Pa.	2	506	345	85	117	2,180	40
E.N. Central	2	3,089	1,501	536	347	593	169
Ohio	-	332	94	20	120	40	19
Ind.	-	330	99	12	57	33	18
Ill.	-	868	284	86	35	13	72
Mich.	2	1,372	458	392	91	27	44
Wis.	NN	187	566	26	44	460	16
W.N. Central	-	2,300	532	66	75	299	79
Minn.	-	243	62	7	9	256	42
Iowa	-	490	44	29	12	8	10
Mo.	-	1,151	360	10	26	28	16
N. Dak.	NN	14	7	4	2	-	3
S. Dak.	-	27	1	-	4	1	3
Nebr.	-	113	26	3	15	2	1
Kans.	-	262	32	13	7	4	4
S. Atlantic	7	2,413	1,603	297	146	792	303
Del.	-	31	7	-	13	109	5
Md.	1	187	172	12	23	494	85
D.C.	-	36	30	-	5	10	20
Va.	1	250	137	27	34	67	73
W. Va.	-	12	16	18	NN	10	1
N.C.	1	211	265	51	14	34	21
S.C.	1	110	99	40	8	3	19
Ga.	-	764	224	NA	6	9	57
Fla.	3	812	653	149	43	56	102
E.S. Central	2	679	759	393	58	103	40
Ky.	-	79	44	17	13	20	13
Tenn.	2	417	454	241	33	45	11
Ala.	-	87	80	13	4	11	10
Miss.	-	96	181	112	8	27	6
W.S. Central	27	6,445	1,627	680	47	145	146
Ark.	2	223	107	15	2	27	5
La.	1	266	208	276	9	13	21
Okla.	-	1,445	67	10	4	45	9
Tex.	24	4,511	1,245	379	32	60	111
Mountain	3	4,326	870	342	69	15	67
Mont.	-	71	12	24	1	-	2
Idaho	-	150	54	86	2	4	1
Wyo.	-	35	25	83	1	3	2
Colo.	-	402	147	38	19	-	30
N. Mex.	-	351	257	61	3	1	8
Ariz.	-	2,330	202	26	18	4	12
Utah	1	550	93	5	18	1	3
Nev.	2	437	80	19	7	2	9
Pacific	67	7,995	1,917	1,090	75	187	497
Wash.	1	1,015	115	42	12	11	49
Oreg.	-	376	119	4	-	20	25
Calif.	40	6,422	1,657	862	61	154	405
Alaska	-	34	15	-	-	2	5
Hawaii	26	148	11	182	2	-	13
Guam	-	-	3	-	-	-	-
P.R.	-	273	843	-	-	-	-
V.I.	-	8	25	1	-	-	6
American Samoa	NA	NA	NA	NA	5	-	1
C.N.M.I.	1	1	48	2	-	-	-

NA: Not Available

NN: Not Notifiable

-: No reported cases

NOTIFIABLE DISEASES — Reported cases, by geographic division and area, United States, 1997 (continued)

Area	Measles		Meningo- coccal disease	Mumps	Pertussis	Plague	Poli- myelitis, paralytic
	Indigenous	Imported*					
United States	81	57	3,308	683	6,564	4	3
New England	11	8	289	14	1,096	—	—
Maine	—	1	19	—	26	—	—
N.H.	1	—	17	1	150	—	—
Vt.	—	—	4	—	283	—	—
Mass.	10	6	100	4	582	—	—
R.I.	—	—	24	8	19	—	—
Conn.	—	1	45	1	36	—	—
Mid. Atlantic	18	9	357	66	593	—	—
N.Y. (excl. NYC)	2	3	97	16	214	—	—
N.Y. City	8	3	57	4	78	—	—
N.J.	3	—	75	8	14	—	—
Pa.	5	3	128	38	197	—	—
E.N. Central	6	4	499	99	714	—	—
Ohio	—	—	164	35	165	—	—
Ind.	—	—	60	15	104	—	—
Ill.	6	1	156	17	155	—	—
Mich.	—	2	72	28	71	—	—
Wis.	—	1	47	4	219	NN	NN
W.N. Central	14	3	248	19	890	—	—
Minn.	5	3	41	7	547	—	—
Iowa	—	—	47	10	207	—	—
Mo.	1	—	106	—	80	—	—
N. Dak.	—	—	2	—	2	—	—
S. Dak.	8	—	6	—	5	—	—
Nebr.	—	—	20	1	16	—	—
Kans.	—	—	26	1	33	—	—
S. Atlantic	4	14	578	85	446	—	1
Del.	—	—	5	—	1	—	—
Md.	—	2	42	1	119	—	—
D.C.	—	2	12	—	3	—	—
Va.	—	1	60	21	59	—	—
W. Va.	1	—	19	—	6	—	—
N.C.	—	2	97	12	118	—	—
S.C.	—	1	64	11	32	—	—
Ga.	—	1	100	11	18	—	—
Fla.	3	5	171	29	90	—	1
E.S. Central	—	1	242	34	159	—	—
Ky.	—	—	50	3	74	—	—
Tenn.	—	—	77	8	40	—	—
Ala.	—	1	85	9	34	—	—
Miss.	—	—	30	14	11	—	—
W.S. Central	3	5	335	98	376	—	1
Ark.	—	—	38	3	62	—	—
La.	—	—	57	17	21	—	—
Okla.	—	1	45	3	60	—	—
Tex.	3	4	195	75	233	—	1
Mountain	8	2	189	61	1,333	2	—
Mont.	—	—	8	—	18	—	—
Idaho	—	—	15	6	570	—	—
Wyo.	—	—	3	1	7	—	—
Colo.	—	—	51	3	415	1	—
N. Mex.	—	—	31	NN	198	—	—
Ariz.	5	—	44	34	45	1	—
Utah	—	1	17	8	29	—	—
Nev.	1	1	20	9	51	—	—
Pacific	19	11	651	207	1,047	2	1
Wash.	1	1	115	21	481	—	—
Oreg.	—	—	124	NN	48	—	—
Calif.	16	8	402	151	483	2	1
Alaska	—	—	3	8	16	—	—
Hawaii	2	2	7	27	19	—	—
Guam	—	—	1	1	—	—	—
P.R.	—	—	8	7	—	—	—
V.I.	—	—	1	1	—	—	—
American Samoa	NA	NA	NA	NA	NA	NA	NA
C.N.M.I.	1	—	—	8	—	—	—

*Imported cases include only those resulting from importation from other countries.

NA: Not Available
 NN: Not Notifiable
 —: No reported cases

NOTIFIABLE DISEASES — Reported cases, by geographic division and area, United States, 1997 (continued)

Area	Psittacosis	Rabies		RMSF*	Rubella		Salmonellosis	Shigellosis
		Animal	Human		Rubella	Cong. syndrome		
United States	33	8,105	2	409	181	5	41,901	23,117
New England	1	1,257	-	5	6	-	2,348	592
Maine	1	227	-	-	-	-	137	15
N.H.	-	49	-	-	-	-	151	54
Vt.	-	113	-	-	-	-	88	11
Mass.	-	282	-	1	1	-	1,259	316
R.I.	-	42	-	1	-	-	167	95
Conn.	-	544	-	3	5	-	546	101
Mid. Atlantic	5	1,722	-	39	40	-	6,505	3,168
N.Y. (excl. NYC)	3	1,264	-	8	11	-	1,649	801
N.Y. City	-	NA	-	6	29	-	1,796	956
N.J.	-	190	-	9	-	-	1,501	625
Pa.	2	268	-	16	-	-	1,559	786
E.N. Central	4	263	-	19	6	-	6,207	2,552
Ohio	-	116	-	12	-	-	1,545	835
Ind.	-	13	-	3	-	-	590	88
Ill.	-	20	-	3	2	-	1,935	1,163
Mich.	4	28	-	-	-	-	906	346
Wis.	NA	26	NA	1	4	NN	1,231	120
W.N. Central	2	537	-	35	2	-	2,287	908
Minn.	1	70	-	1	-	-	632	138
Iowa	-	160	-	1	-	-	297	90
Mo.	1	31	-	24	2	-	568	222
N. Dak.	NN	91	-	-	-	-	69	10
S. Dak.	-	94	-	2	-	-	90	31
Nebr.	-	2	-	-	-	-	185	284
Kans.	-	89	-	7	-	-	446	133
S. Atlantic	7	3,109	-	136	79	1	8,475	4,499
Del.	1	67	-	-	-	-	101	35
Md.	1	603	-	20	-	-	1,231	423
D.C.	-	5	-	-	1	-	115	47
Va.	-	678	-	23	1	-	1,120	416
W. Va.	-	89	-	3	-	-	133	27
N.C.	1	879	-	35	59	-	1,226	387
S.C.	1	186	-	36	15	-	603	87
Ga.	-	324	-	11	-	-	1,356	1,131
Fla.	3	278	-	8	3	1	2,590	1,946
E.S. Central	-	271	-	91	1	-	1,771	1,127
Ky.	-	29	-	5	-	-	373	449
Tenn.	-	149	-	40	-	-	443	291
Ala.	-	88	-	9	1	-	470	272
Miss.	-	5	-	37	NN	-	485	115
W.S. Central	-	439	-	69	12	-	4,246	4,252
Ark.	-	56	-	31	-	-	445	273
La.	-	7	-	5	-	-	617	182
Okla.	-	113	-	29	-	-	391	293
Tex.	-	263	-	4	12	-	2,793	3,504
Mountain	3	197	1	12	7	1	2,587	1,913
Mont.	-	52	1	4	-	-	63	11
Idaho	-	-	-	5	2	-	141	79
Wyo.	-	31	-	1	-	-	49	5
Colo.	3	34	-	-	-	-	608	258
N. Mex.	-	13	-	-	-	-	311	331
Ariz.	-	53	-	1	5	1	853	1,076
Utah	-	6	-	1	-	-	271	101
Nev.	-	8	-	-	-	-	291	52
Pacific	11	370	1	3	28	3	7,475	4,106
Wash.	1	-	1	-	5	-	680	318
Oreg.	2	14	-	1	-	-	368	189
Calif.	8	327	-	2	14	3	5,993	3,528
Alaska	-	29	-	-	-	NN	50	6
Hawaii	-	-	-	-	9	-	384	65
Guam	-	-	-	-	-	-	24	35
P.R.	-	71	-	-	-	-	838	70
V.I.	-	-	-	-	-	-	10	2
American Samoa	NA	NA	NA	NA	NA	NA	NA	NA
C.N.M.I.	-	-	-	-	-	-	43	34

*Rocky Mountain spotted fever.

NA: Not Available

NN: Not Notifiable

-: No reported cases

NOTIFIABLE DISEASES — Reported cases, by geographic division and area, United States, 1997 (continued)

Area	Syphilis*			Tetanus	Toxic-shock syndrome	Trich-inosis	Tuber-culosis†	Typhoid fever
	Cong. (<1 yr.)‡	Primary & secondary	All stages					
United States	1,049	8,550	46,540	50	157	13	19,851	365
New England	4	144	1,172	—	5	—	478	21
Maine	—	2	13	—	1	—	21	—
N.H.	—	—	23	—	3	—	17	—
Vt.	—	—	1	—	—	—	6	1
Mass.	2	78	731	—	1	—	268	19
R.I.	—	2	84	—	—	—	38	1
Conn.	2	62	320	—	—	—	128	—
Mid. Atlantic	220	412	7,950	6	20	2	3,511	101
N.Y. (excl. NYC)	21	41	684	3	10	—	535	21
N.Y. City	78	97	4,955	—	4	—	1,730	49
N.J.	84	151	1,129	2	—	2	718	29
Pa.	37	123	1,182	1	6	—	528	2
E.N. Central	118	1,046	4,336	2	46	4	1,932	53
Ohio	10	218	761	—	2	1	286	5
Ind.	3	151	522	—	4	1	168	3
Ill.	72	435	1,953	2	12	—	974	28
Mich.	26	153	785	—	20	1	374	7
Wis.	7	89	315	NA	8	1	130	10
W.N. Central	12	172	874	2	28	1	814	5
Minn.	—	16	124	1	10	—	161	1
Iowa	—	7	72	1	3	—	74	—
Mo.	10	114	494	—	8	1	248	1
N. Dak.	—	—	—	—	1	—	12	—
S. Dak.	—	1	7	—	1	—	19	—
Nebr.	—	5	32	—	4	—	22	1
Kans.	2	29	145	—	1	—	78	2
S. Atlantic	201	3,177	13,253	6	15	—	3,780	48
Del.	2	22	113	—	1	—	39	—
Md.	56	891	2,453	1	—	—	340	5
D.C.	12	117	645	1	1	—	110	—
Va.	6	236	1,103	1	1	—	350	5
W. Va.	—	1	19	1	—	—	54	2
N.C.	22	721	2,206	1	1	—	463	5
S.C.	15	378	1,135	1	3	—	328	3
Ga.	15	515	2,833	—	1	—	696	8
Fla.	73	296	2,746	1	7	—	1,400	20
E.S. Central	104	1,682	5,689	3	3	1	1,315	2
Ky.	5	135	403	—	—	—	198	—
Tenn.	30	747	2,366	2	2	1	467	1
Ala.	29	410	1,481	—	1	—	405	1
Miss.	40	390	1,439	1	NN	—	245	—
W.S. Central	213	1,330	8,159	11	1	—	2,810	25
Ark.	31	173	562	1	1	NN	200	—
La.	22	364	1,808	2	—	—	406	2
Okla.	9	117	405	2	—	—	212	3
Tex.	151	676	5,384	6	—	—	1,992	20
Mountain	12	172	1,045	6	18	4	644	9
Mont.	—	—	5	1	—	4	18	1
Idaho	—	1	24	—	1	—	15	—
Wyo.	—	—	1	—	—	—	2	—
Colo.	—	15	154	2	9	—	94	4
N. Mex.	—	9	103	—	—	—	71	—
Ariz.	12	132	600	—	4	—	296	2
Utah	—	5	56	3	3	—	36	—
Nev.	—	10	102	—	1	—	112	2
Pacific	165	415	4,062	14	21	1	4,767	101
Wash.	1	17	132	1	5	—	305	7
Oreg.	1	10	48	2	—	—	161	3
Calif.	163	386	3,823	11	16	1	4,056	84
Alaska	—	1	12	—	—	—	78	—
Hawaii	—	1	47	—	—	—	167	7
Guam	—	—	1	—	—	—	—	1
P.R.	7	249	1,575	1	—	—	257	—
V.I.	—	2	10	—	—	—	1	—
American Samoa	NA	NA	NA	NA	NA	NA	5	NA
C.N.M.I.	NA	NA	NA	—	—	—	88	—

*Cases were updated through the Division of Sexually Transmitted Diseases Prevention, NCHSTP, as of July 13, 1998.

†Cases were updated through the Division of Tuberculosis Elimination, NCHSTP, as of April 15, 1998.

NA: Not Available
NN: Not Notifiable
—: No reported cases

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